

Ten Things I (no longer) Believe about Transforming Teaching & Learning With Technology

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Alias for this web page: http://bit.ly/ten_things_table

To discuss the ideas below, please join us in a free webinar, "FridayLive," at 2 PM ET on Friday, October 23. We'll talk about some of the most provocative ideas below, and ask you about the best ways to improve teaching and learning with technology on a large scale. You'll need to register in advance for this free event, unless you're already an individual member of the TLT Group. Go to <http://www.tltgroup.org/calendar.htm>, click the button for 'all online events,' and scroll down to the FridayLive for October 23.



And, before Thursday, please answer these two questions to help us plan the discussion.

Since the late 1960s, I have believed that digital technologies could be used to make fundamental change in education. However, my beliefs about the nature of that improvement, and how to achieve it, have changed almost completely. Have your beliefs changed, too?

The table of contents below outlines a series of blog posts, a pair each week. **Each pair of posts is intended to trigger a conversation: please add your observations and opinions to our stew.** And, if your institution is a TLT Group subscriber, consider using this material at meetings of your Teaching, Learning, and Technology Roundtable and other councils and committees that develop and implement plans for improving academic programs. Debating these ideas should help your group clarify assumptions, and develop more feasible, ambitious plans for improving programs. My thanks to [TLT Group subscribing institutions](#) and individual members for your support!

The left hand column below summarizes old beliefs, all of them still held by many people. The right hand column describes what I would suggest today instead. (*The italicized cells are plans for upcoming essays, and are continually revised.*) Each URL leads to a mini-essay, with examples.

- The first five rows describe **goals for using technology** (e.g., what I once believed about using technology to engage distant learners, and what I now believe instead).
- The remaining rows deal how to achieve those goals: governance, faculty support; the proper roles for evaluation and assessment, technology infrastructure.

PS. Sharp-eyed observers will notice that there are now '13 things I (no longer) believe,' instead of the original 10. If the Big Ten football conference can have 11 teams, there's no reason why "Ten Things I (no longer) Believe" can't grow beyond a mere ten things.

Introduction to this series: <http://bit.ly/SrVLW> (revised October 18, 2009)

Goals for improving an academic program, using technology

| What I Once Believed (1-13) | What I Believe, and Suggest, Today (A-M) |
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| 1. Goal #1 for improving teaching and learning with technology (TLT): Attract attention, students, and money by being the first to buy the new technology and identifying your program with it. This technology is magic, so education is bound to improve. | A. Goal #1: Attract attention, students and money by opening an educational lead (enabled by information and communication technologies (ICT) over your competitors. Use ICT to leverage changes in teaching/learning activities. However, improving a program's outcomes takes more years than most hot new technologies will last, especially if this lead over competitors should be sustainable. So focus your plans and budget on the activities you need to change. The rest of these posts deal with how to create and implement such a strategy. Post: |

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| Post: http://bit.ly/18aWW2 | http://bit.ly/MUZUn |
| 2. Goal #2 for TLT: Improve learning: use computers to increase test scores. Measure: compare students who use this technology with students in a similar class who don't use the technology: who scores higher? You can increase those scores by focusing on activities such as the 'seven principles of good practice.' Post: http://bit.ly/3oY68y | B. Goal #2: Improve learning by changing skills and content being taught. Strategy #2 isn't false, but it's often a secondary concern. The major value of using technology in programs usually stems from updating <i>what</i> students learn. Evaluation challenge: to assess the value of the change, you can't use changes in test scores, because the 'test' itself should be changing, too, as program goals change. Instead, each year, collect the tests (what students are asked to do) and their results (what students did on those 'tests'). Then ask a team of employers, grad schools, students and other stakeholders to examine that evidence. Do they favor the evolving change in what's being taught and learned? Why? Suggestions? Post: http://bit.ly/4g0Ulw |
| 3. Goal #3 for TLT: Improve enrollment via distance learning by making some courses and programs 'distance courses.' Measures: quality comparable to campus courses; net changes in numbers of students enrolling and graduating. Post: http://bit.ly/2upIJh | C. Goal #3: "Distance learning" and campus learning reconceived: All program improvements have the potential for net gains in what is learned, and in who can learn, and in how they learn. So be pragmatic. Start with where you need to start (e.g. we want to serve this group of learners, or we want to make this change in content, or we want to make teaching and learning more effective. But then immediately consider how to use technology so that one change can achieve not only your initial aim but also gains in the other two dimensions as well.) Post: http://bit.ly/3gMeYU |
| 4. Goal #4 for TLT: To help your program's bottom line, offer distance learning. Increase revenue, reduce staff costs per student, and reduce facilities costs per student. Measure: revenue and costs per student. Post: http://bit.ly/1NTTkQ | D. Goal #4: There is no predictable impact of technology use on the bottom line. Distance learning, for example, can have positive or negative impacts on the budget, depending on how it's done, market response, etc. So evaluate the costs of your activities (learn about how people spend their time). Goal: create win-win ways to redesign activities that reduce time (money) spent on burdensome tasks, while maximizing the fulfilling side of academic work. Post: http://bit.ly/1hNQb |
| 5. Goal #5 for TLT – Make work easier; save time. Least valued of the five strategies. (In the 1990s, people often complained “We spend big bucks for computing infrastructure. But all we’re using it for is word processing!”) Post: http://bit.ly/4hwSvL | E. Goal #5: Sometimes, if students or instructors save enough time in a common, essential learning activity, the result can be qualitative improvement in that activity across the entire degree program, and a resulting improvement in what graduates can do. Advanced technology is not a requirement; even word processing can enable such a programmatic transformation. Post: http://bit.ly/UAsdP |

Strategies for using technology to transform an academic program

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| 6. Planning TLT strategy and support: Clear lines of authority, responsibility. Faculty decide what to teach and how, course by course. Information Technology (IT) services decides on teaching facilities (e.g., classroom tech, course management system, distance learning), with advice from faculty (usually those most interested in new technology). Post: http://bit.ly/JrLTB | F. Planning TLT strategy and support: Collaborative change. Increasingly "technology" decisions are of immediate concern to many units of the institution (and, sometimes, to entities outside the institution). How each such entity interprets that choice and commits to its implementation - all that can easily alter the consequences of the choice, not just for that entity but for other groups as well. So a collaborative approach to change can be crucial. The TLT Group has developed a variety of relevant resources, including organizational strategies to foster such collaboration (Teaching, Learning, and Technology Roundtables) and use of Flashlight Online as a tool for gathering information, ideas, and opinions as part of a strategy for shared governance. Post: http://bit.ly/b8P2U |
| 7. Designing training: divide the labor, with technologists teaching how to operate the technology. Meanwhile, at | G. Designing training: set priorities so that there can be a critical mass to achieve improvements beyond the scope of what one course or instructor alone can achieve. Then, at least for those selected activities and uses of technology, offer |

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| <p>some institutions, the faculty development program or teaching center focus mainly on teaching issues, avoiding technology. Post: http://bit.ly/3yr03V</p> | <p>support in several different modes (e.g., workshops, tutorials, peer-to-peer strategies) and in several different frames (e.g., new technology, learning priorities, saving time). Only fractions of the faculty may take advantage of each offering but, because they are all offering overlapping education and resources, the effect is to engage a large fraction of the faculty. Post: http://bit.ly/KOEEn</p> |
| <p>8. Faculty support - Scale: as technologies pop up, educate the people who are interested via workshops, help desk, consultations.. Costly for each faculty member helped. Low probability of assisting with cumulative improvements in teaching and learning either for individual faculty or, still less, for courses of study. http://bit.ly/PQTz0</p> | <p>H. Faculty-support - Scale: Making (technology-enabled) improvements big enough to influence who graduates from a program, what they have learned, and how they learned it - to accomplish that requires most faculty to make changes in their courses. How can faculty support units accomplish that? One way is through the Treblig Cycle of peer-to-peer sharing of improvements: 1) a faculty member hears about an idea or material/tool that's easy to learn, free or very cheap, nondisruptive, easy to appreciate, 2) tries it, 3) tries it again, gathering some feedback, 4) tweaks the idea a bit, perhaps, and then 5) helps at least a couple colleagues try it as well, (putting them in step 1 of the cycle. Faculty support units can help with this cycle by finding appropriate low threshold applications and activities, and supporting the 'viral' process of peer-peer sharing. http://bit.ly/WqPDJ</p> |
| <p>9. Your institution is unique. Be first with ideas to improve it; discount ideas 'not invented here.' Innovation and discovery are the ways to get rewards, not copying or adapting what others have done. Besides, your ow program's situation is so unusual that things that work elsewhere probably wouldn't work for you. You need to create our own inventions, do our yown pilot tests of new technology, etc. http://bit.ly/JZCWx</p> | <p>I. To be a great innovator, be a world class scrounger. And focus on ideas that are cheapest, easiest and lowest risk to adapt, so long as they move toward where you want to go. Faculty members usually have little time to pick up new ideas and little ability to take risks (e.g., embarrassment, wasted time). So they're more likely to notice and try 'low threshold' ideas, materials, tools and tips from trusted peers (acquaintances who teach similar courses to similar students, even at other institutions). Spread ideas for teaching and learning with technology that 'everyone already knows.' Too many faculty still haven't heard about them. To increase the rate at which such LTAs enter your institution and spread, create and sustain faculty communities whose members come from a number of institutions. After setting a few programmatic goals for improvement, faculty and staff should become world class scroungers and borrowers of appropriate LTAs from around the world. Ironically, that's also a great way to get a reputation as an innovator. http://bit.ly/F2xwi</p> |
| <p>10. Design of training and support: show faculty what successful teaching use of the technology looks like, and then show them how to do it. Focus attention on ideas that are as interdisciplinary as possible. And provide these services with professional staff. http://bit.ly/3VetEE</p> | <p>J. Design of training and support: in addition, help faculty learn to cope with pedagogical problems that could emerge as a result of changing these TLT activities. Staff usually fail to acknowledge that changing to an unfamiliar teaching/learning approach will lead to unfamiliar teaching/learning problems. Training should feature role plays and case discussions that help prepare instructors for such problems. Professional staff aren't numerous enough and, equally important, lack the teaching experience to provide the TLT support needed. If improvements are to made pervasively in an institution, faculty need to help their colleagues. Staff's role: provide the scaffolding to help that happen. http://bit.ly/4rKAqR</p> |
| <p>11. Evaluation: This blog post begins with a summary of new suggestions made already about how to evaluate educational uses of technology. Some beliefs I've abandoned: for example, evaluation should be mainly summative (how well did we do) and done as late as possible, after the program's startup problems are fixed. http://bit.ly/1eE79v</p> | <p>K. Evaluation should be mainly formative (what should we do, measure baseline and discover how to work out the kinks) and should begin immediately (baseline data on how the activities work before changes are implemented). Formative evaluations usually need different kinds of data than summative: data about activities are (even) more important than data about outcomes, for example. When developing a program plan, especially for changes that are exploratory, risky and/or expensive, the evaluator should be engaged early. A good evaluation should help project participants see what they're doing, every step of the way. http://bit.ly/1WvuYO</p> |
| <p>12. Evaluation: <i>Measure progress in ultimate outcomes (e.g, measures of gains in skills of people who have been educated, gains in the numbers and types of people who have been educated). I have labeled</i></p> | <p>L. Evaluation: <i>Any educational program can understood, and evaluated, from two perspectives. Uniform impacts is one (see left). The other is unique uses: focusing on how each individual perceives the program and benefits (if at all) from their uses of the program (and the technology). First level of findings:</i></p> |

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| <i>this perspective 'uniform impact' because it assumes that the same measures should be applied to assessing benefits for each person (or entity) affected by this use of technology.</i> | <i>how did each student benefit, if at all, from the program. Second level of analysis: any patterns across students? Uniform impact and unique uses are complementary perspectives for evaluation: each notices phenomena that the other misses. However, many uses of today's technology are empowering for the faculty, staff and students involved, increasing their options. So the 'unique uses' side of a program may well become more important as technology use expands.</i> |
| <i>13. Invest your attention and money in dramatic shifts in technology infrastructure and tools (a la #1 above)</i> | <i>M. Minimize dramatic shifts in technology infrastructure (though they are sometimes needed). The most important technologies for major, cumulative improvements in education are the technologies that many faculty and students use and take for granted, capabilities that they might not even think of as 'technology' any more; it's there, it's been there, and it will be there. These technologies improve (almost invisibly from time to time) but they will almost never disappear, or change so much that educational materials that use them will need to be redesigned. Steve Gilbert has called these "foundation technologies" and it's a good metaphor. And those technologies most important for educational change are often also are used for other purposes ("worldware").</i> |
| <i>Summing up: to transform education with ICT, you need to identify the right new ICT before anyone else, a big budget, and the courage to take big risks.</i> | <i>Summing up: Identify a programmatic activity that can be advanced in a cumulative, important way, often using ICT, in a way that ultimately improves program outcomes. Use feedback to guide your effort within courses and across the program. Develop ways to accelerate and guide peer-peer assistance (across as well as within institutions).</i> |

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Note: once this series of blog posts is complete, I intend to turn them into an article or short book.

Using these materials at your institution: for Teaching Learning and Technology Roundtables, curriculum committees, distance learning advisory councils, and any other group with responsibility to develop academic initiatives or policy, it may be useful to hold a series of discussions or debates. Each row of this table provides a potential topic for discussion:

- what are examples of activity at our institution align with the 'old' and 'new' beliefs in this row?
- what do we see as the advantages of each point of view for guiding future action in our program or institution?
- do any of these ideas suggest changes in current plans? new directions for improvement?

These materials were developed for use by institutions subscribing to The TLT Group, but they may be used by others as well. We would appreciate if you let us know if you find these ideas useful.

Ideas that could be added to, or substituted for, the ideas currently in the table

Old: Focus evaluation on the technology and ask summative questions. New: Focus evaluation on the activity and ask formative questions.